REMARKS

Claims 10, 12, 13, 44, and 45 remain in the application with claims 10, 12, 13, 44, and 45 having been amended hereby. Claims 1-9, 15-43, and 47-59 have been previously canceled and claims 11, 14, 46, and 60-61 have been canceled hereby without prejudice or disclaimer.

Reconsideration is respectfully requested of the rejection of claims 10, 12, 13, 44, and 45 under 35 U.S.C. 102(b), as being anticipated by U.S. Patent No. 5,696,757, to Ozaki et al.

Independent claim 10, as amended, relates to a recording apparatus for recording to a mother disc. A bit operating unit splits a digital signal into a first data comprised of upper bits and a second data comprised of lower bits. A light source outputs a recording beam. A light modulator modulates the recording beam outputted from the light source based on the first data. A light deflector deflects based on the second data the modulated recording beam outputted from the light modulator and produces a variable offset from a track center in a radial direction of the mother disc. An objective lens converges the modulated recording beam that is outputted from the light deflector with the variable offset from the track center in the radial direction onto the mother disc.

Ozaki et al. relates to a CD-ROM for storing computer software containing multiple data trains. Unauthorized copying of information recorded on the CD-ROM can be prevented. A device

can check the CD-ROM to determine if it is an original authorized disc or an unauthorized copy based on the multiple data trains.

Ozaki et al. fails to teach or suggest a bit operating unit for splitting a digital signal into a first data comprised of upper bits and a second data comprised of lower bits. A light modulator modulating the recording beam based on the first data and a light deflector deflecting the recording beam based on the second data.

The Examiner contends that these features are taught in Ozaki et al. Specifically, the Examiner cites col. 18, line 31 through col. 19, line 29. The cited portion of Ozaki et al. reads as follows:

> ... software for a game is inputted to an EFM encoder 50 which converts the data into an EFM signal and then outputs the EFM signal. On one hand, the EFM signal is inputted to an optical modulator (namely, a light modulator) driver 52. Then, an optical modulator drive signal is outputted from the driver 52 to an optical modulator 54.
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> On the other hand, the EFM signal is inputted to a sub-code reader 56 which extracts a sub-code signal from the EFM signal and outputs the extracted sub-code signal. This sub-code signal is inputted to a central processing unit (CPU) 58 and a gate signal generator 60. The CPU 58 constantly monitors address information represented by the sub-code signal and generates and outputs a control signal (see FIG. 7(B)) when the sub-code signal comes to represent a predetermined address at which a protection code should be recorded. This control signal is inputted to the gate signal generator 60.
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> When receiving the control signal from the CPU 58, the gate signal generator 60 generates a gate signal (see FIG. 7(C)) which is synchronized with a sub-code frame. This gate signal corresponds to a protection code. In case where

the sub-code frame is, for example, an odd frame, the gate signal has a low signal level corresponding to a logical value of L (namely, a low level). Further, in case where the sub-code frame is an even frame, the gate signal has a high signal level corresponding to a logical value of H (namely, a high level). Incidentally, it is apparent that in case where the sub-code frame is an odd frame, the gate signal may have a high level corresponding to a logical value of H and, in case where the sub-code frame is an even frame, the gate signal may have a low level corresponding to a logical value of L. Such a gate signal is inputted to a frequency generator (FG) 62.

Further, when the gate signal has a high level "H" (namely, in case of an even frame), the FG 62 generates a sinusoidal wave having a predetermined frequency. However, when the gate signal has a low level "L" (namely, in case of an odd frame), the FG 62 generates no wave. Therefore, a signal outputted from the FG 62 becomes a burst wobbling signal (see FIG. 7(D)) which is synchronized with the sub-code frame. This wobbling signal is inputted to an optical deflector driver 64 and further an optical deflector drive signal outputted from the driver 64 is inputted to an optical deflector 66.

On the other hand, laser light La is continuously irradiated from a laser oscillator 68 onto the optical modulator 54. Thus the laser light La first passes through the optical modulator 54. At that time, the laser light La is subjected to a signal modulation correspondingly to an optical modulator drive signal and is thus changed to laser light Lb, the intensity of which varies with time. This laser light Lb passes through the optical deflector 66. Thus the laser light Lb is changed into laser light Lc which is deflected correspondingly to the optical deflector drive signal. This laser light Lc is irradiated therefrom onto a master disc 72 through an objective lens 70 as a microscopic spot. Further, this microscopic spot is deflected in the radial direction on the master disc 72 by using the optical deflector 66. As a consequence, the wobbled pit pattern as illustrated in FIG. 6(A) is formed. In this manner, the master disc suitable for a copy protection, which includes the train of the wobbling irregular pits, can be obtained.

The cited portion of Ozaki et al. fails to teach or suggest

splitting a digital signal into a first data comprised of upper bits and a second data comprised of lower bits. Analogue signals, such as music, still pictures and video, may be expressed as digital data where the greater the number of bits per digital sample, the higher the quality of the digitization. For example, conventional music CDs store music in 16 bit samples, while CDs stored according to embodiments of the present invention may, for example, store music in 20 bit samples for superior sound quality. Of the 20 bits, the 16 most significant bits (the upper bits) represent a sound quality equivalent to the conventional music CD. The 4 least significant bits (the lower bits) represent the data necessary to produce the superior sound quality when added to the upper bits. By splitting digital data into a first data comprised of upper bits and a second data comprised of lower bits and modulating the recording beam based on the first data and deflecting the recording beam based on the second data, the digital data may either be reproduced from only the upper bits (resulting in a standard quality) or may be reproduced from both the upper bits and lower bits (resulting in superior quality).

While Ozaki et al. may appear to generate an EMF signal and a sub-EMF signal from the inputted game software, the EMF signal and the sub-EMF signal are not analogous to the upper bits and lower bits. This is proven by the fact that game software cannot be split into most significant bits and least significant bits

because in computer program data, such as game software, each bit has equal significance.

Therefore, by reason of the amendments made to the claims hereby, as well as the above remarks, it is respectfully submitted that optical recording medium, recording apparatus and method for optical recording medium, and reproducing apparatus and method for optical recording medium, as taught by the present invention and as recited in the amended claims, is neither shown nor suggested in the cited references.

The references cited as of interest have been reviewed and are not seen to show or suggest the present invention as recited in the amended claims.

Favorable reconsideration is earnestly solicited.

Respectfully submitted,

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